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Respectfully submitted,

August 3, 2001
Date

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JC17 Rec'd PCT/PTO 03 AUG 2001
PCT/AU00/00099
Received 10 April 2001
09/890698

We Claim:

1. A method of processing an optical device incorporating a waveguide, the method comprising the step of:

- utilizing a laser to heat and thereby ablate a surface of the device so as to induce a stress in said optical device and thereby alter an optical characteristic of the waveguide, wherein the power density of the laser is selected to effect surface ablation.

2. A method as claimed in claim 1 wherein the laser comprises a carbon dioxide laser source.

3. A method as claimed in ~~any one of the preceding claims~~ claim 1 wherein the method is utilized to alter the birefringent properties of the waveguide.

4. A method as claimed in claim 3 wherein the TM and TE birefringent modes are substantially aligned by the method.

5. A method as claimed in ~~any one of the preceding claims~~ claim 1 further comprising the step of masking the surface with a thermally conductive material having an aperture defined to minimise exposure of the device to the laser.

6. A method as claimed in ~~any one of the preceding claims~~ claim 1 wherein the device comprises a sensor.

7. A method as claimed in ~~any one of the preceding claims~~ claim 1 further comprising the step of:

- depositing a material layer on the surface.

8. A method as claimed in claim 7, wherein the step of depositing the material layer comprises depositing the material layer on portions of the surface affected by the ablation.

9. A method as claimed in ~~any one of the preceding claims~~ claim 1 further comprising the step of:

- mounting a further component in a groove formed in the surface as a result of the ablation.

10. A method as claimed in claim 7 ~~or 8~~, wherein the material layer is provided as an electrode for

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Received 10 April 2001

electrically contacting the device.

11. A method as claimed in claim 9, wherein the further component comprises a modulator for modulating a characteristic of the device.

12. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the step of utilising the laser to heat the surface is conducted at different locations of the device so as to form an optical structure.

13. A method as claimed in claim 12, wherein the optical structure comprises a grating structure.

14. A method as claimed in claims 12 ~~or 13~~, wherein the optical structure comprises a polarisation filter.

15. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the method is used to diminish UV induced changes present in the waveguide.

16. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the device comprises an optical fibre.

17. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the method is utilised to mark the device by way of the ablation.

18. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the laser comprises a semiconductor laser operating at a wavelength of more than about 1.8 micro metre.

19. A method as claimed in claim 18, wherein the surface of the device comprises SiO_2.

20. A method as claimed in ~~any one of the preceding claims~~ claim 1, wherein the method further comprises the step of providing an absorber material to facilitate the heating of the surface of the device.

21. A device incorporating a waveguide, wherein the waveguide has been processed utilising a laser to heat and thereby ablate a surface of the device so as to induce a stress in said device and thereby alter an optical characteristic of the waveguide, wherein the power density of the laser is selected to effect ablation.